

Work Order ID 151791

Friday, October 07, 2016 2:34:54 PM

151791

Page 1

Item ID: D3529-1 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Bearpaw
Start Date: 9/27/2016 Start Qty: 4.00 ***4*** Cust Item ID:
Required Date: 10/7/2016 Req'd Qty: 4.00 ***4*** Customer:
Reference:

Approvals: Process Plan:  Date: 16-10-11 Tooling: Date: Run Start ***NR1***
QC: Date: SPC (Y/N): Date: Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3529	Rev A								

110 0.00

110

Waterjet

FLOW CNC Waterjet

FLOW WATER JET

Memo

CUT BLANK AS PER FILE D3529-1BLANK

0.11



16/10/13

120

0.00

120

HAAS 1

HAAS CNC vertical machine #1

HAAS CNC VERTICAL MACHINING #1

Memo

1-Inspect material for defects or damage prior to machining2-Machine as per Folio FA645 and Dwg D35293-Debur

0.35

4

φ

DAS
49
9-89

16/10/24

130

0.00

130

QC

Quality Control

QC2- Inspect parts off machine FAI/FAIB

Memo

0.01

4

φ

DAS
49
9-89

16/10/24

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval																																																									
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																																																									
Root Cause		FAULT CATEGORY																																																															
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER :			
Misidentified ☐	Past Due ☐																																																																

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Page 2

Item ID: D3529-1

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Bearpaw

Start Date: 9/27/2016 Start Qty: 4.00

4

Cust Item ID:

Required Date: 10/7/2016 Req'd Qty: 4.00

4

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

140 QC8- Inspect parts - second check

0.00

140

QC

Memo

0.01

Quality Control

DAS

14

9-22

16/10/26

150 Identify as per dwg & Stock Location: S1

0.00

R00, 151682

150

Packaging

Memo

0.01

Packaging

4 OCT 2 6 2016

DAS

6

9-22

160 QC21- Final Inspection - Work Order Release

0.00

160

QC

Memo

0.07

Quality Control

DAS

21

9-22

OCT 2 7 2016

DAS

21

9-22

OCT 2 6 2016

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

Picklist Print

Friday, October 07, 2016 2:34:54 PM

Page 1

Work Order ID: 151791

151791

Parent Item: D3529-1

D3529-1

Parent Item Name: Bearpaw

Start Date: 9/27/2016

Required Date: 10/7/2016

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP Rev:A New Issue 06-06-28 JLM
IPP Rev:B New Manufacturing Method 08-11-27 Verified By:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MUHMWB10		Purchased		No		100	sf	211.0000	1.265	5.326316			

MUHMWB10

UHMW 1" Black - 48"x120" Tivar Mfg.#52480104

02/16/10/13

Location

Loc Qty

Loc Code

MAT

197

m135497

197

MAT018

14

m135013

14

6.5

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

DART AEROSPACE LTD		Work Order:	151791
Description: Bearpaw		Part Number:	D3529-1
Inspection Dwg: D3529 Rev: A		Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

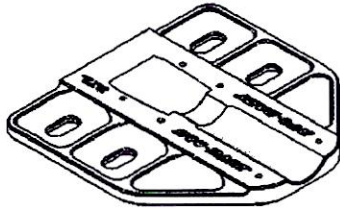
Inspection Sheet	Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
A	5.50	+/-0.030	5.503	/		vern	mark L-05
B	0.07 x 45°	+/-0.030 x 0.5°	0.060x45°	/		u	
C	R0.25	+/-0.030	0.250	/		RG	
D	0.250	+/-0.010	0.250	/		vern	mark-ol
E	0.625	+/-0.010	0.628	/		vern	mark L-05
F	0.950	+/-0.010	0.945	/		u	
G	1.63	+/-0.030	1.620	/		u	
H	12.14	+/-0.030	12.140	/		tape	
I							
J	5.70	+/-0.030	5.710	/		vern	mark L-05
K	0.375	+/-0.010	0.380	/		u	
L	0.525	+/-0.010	0.528	/		u	
M	0.13 x 45°	+/-0.030 x 0.5°	0.140x45°	/		u	
N	R0.50	+/-0.030	0.500	/		RG	
O	12.76	+/-0.030	12.750	/		tape	
P	3.38	+/-0.030	3.375	/		vern	mark L-05
Q	3.75	+/-0.030	3.750	/		u	
R	5.187	+/-0.010	5.190	/		u	
S	5.25	+/-0.030	5.253	/		u	
T	7.13	+/-0.030	7.129	/		u	
U	Ø0.260	+0.006/-0.001	0.260	/		u	
V	0.30	+/-0.030	0.310	/		u	
W	0.93	+/-0.030	0.928	/		u	
X	1.30	+/-0.030	1.290	/		u	

Measured by:	9-89	Audited by:	9-89	Prototype Approval:	N/A
Date:	16/10/24	Date:	16/10/26	Date:	N/A

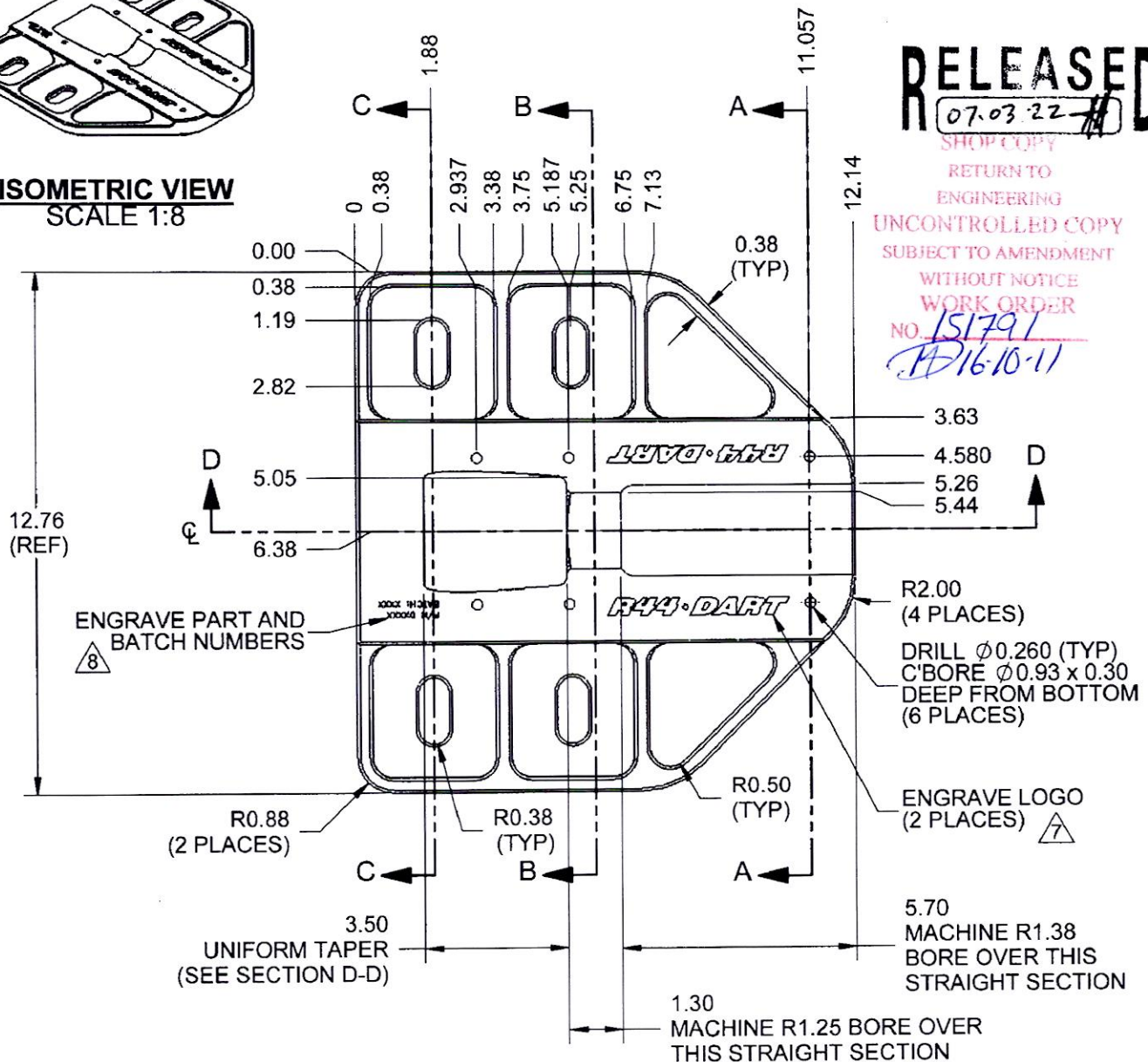
Rev	Date	Change	Revised by	Approved
A	07.05.01	New Issue	KJ/JLM	
B	08.05.06	Dimension I removed	KJ/DD	

DART

DESIGN CB	DRAWN BY CB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED B	APPROVED A	DRAWING NO. D3529	REV. A SHEET 1 OF 2
DATE 07.01.04		TITLE R44 BEARPAW	SCALE 1:4
REV A	DATE 07.01.04	DESCRIPTION NEW ISSUE	



ISOMETRIC VIEW
SCALE 1:8



D3529-1 R44 BEARPAW

NOTES:

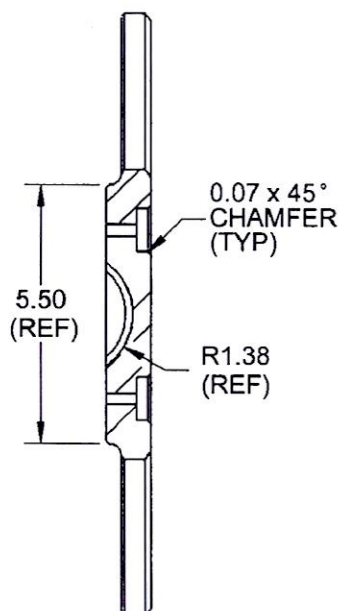
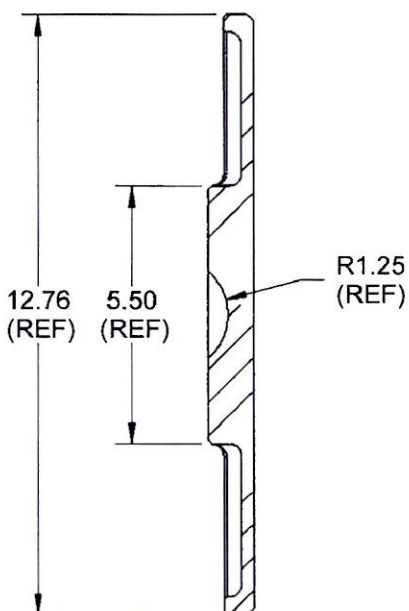
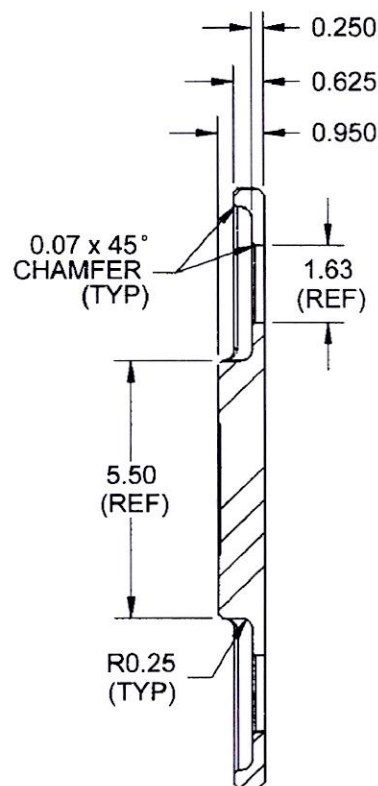
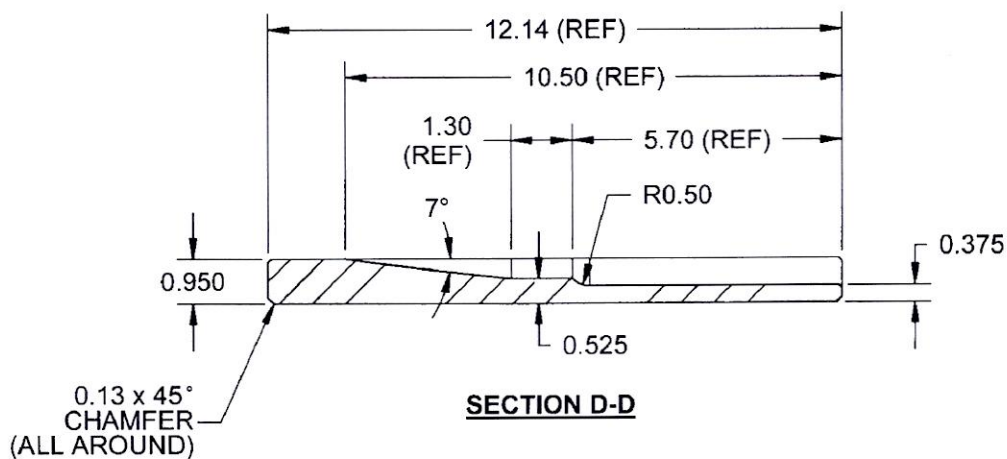
- 1) MATERIAL: UHMW BLACK PER SPEC CONTROL DRAWING D2689, 1.00 THICK (MACHINE TO 0.950)
- 2) FINISH: NONE
- 3) PART IS SYMMETRIC ABOUT ϕ
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES
- 6) BREAK ALL SHARP EDGES 0.005 TO 0.010 MAX
- 7) ENGRAVE LOGO TO MAX DEPTH OF 0.012 AT LOCATION SHOWN
- 8) ENGRAVE PART AND BATCH NUMBERS TO MAX DEPTH OF 0.010 AT LOCATION SHOWN

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DART

DESIGN CB	DRAWN BY CB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED 	APPROVED 	DRAWING NO. D3529	REV. A SHEET 2 OF 2
DATE 07.01.04		TITLE R44 BEARPAW	SCALE 1:4

RELEASED
07 03 22**SECTION A-A****SECTION B-B****SECTION C-C****SECTION D-D****COPYRIGHT © 2007 BY DART AEROSPACE LTD**

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